COMPAQ

ProLiant 8500 Servers

I/O Module Upgrade Guide

Second Edition (April 2001)
Part Number 216597-002
Compaq Computer Corporation

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Compaq ProLiant 8500 Servers I/O Module Upgrade Guide

Introduction

Use this option kit and the instructions provided in this guide to add PCI-X technology and the ROM-Based Setup Utility (RBSU) to Compaq *ProLiant*™ 8500 servers.

The upgrade is performed by one of two methods. The method used depends on the current server setup and operating system. Depending on the current setup, the operating system may have to be reinstalled.

After the upgrade, the server will become a ProLiant DL760 server model. A new service number will be assigned to the server to identify the new components. This service number will be used to identify the type of system you have and will ensure that proper help and diagnosis is given by the Compaq Call Center or service technician. You will maintain the current system serial number. When you call for service, provide both the original system serial number and the upgrade service number.

CAUTION: If you are planning to upgrade the server with the I/O module upgrade and the 900-MHz processor upgrade simultaneously, perform the I/O module upgrade first. Performing the I/O module upgrade first will ensure the latest BootBlock ROM chip is installed in the server.

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IMPORTANT: Refer to the section, "Preparing the Server for the Upgrade," for a list of the ProLiant DL760 supported operating systems. Also, the server will only support three 5V I/O expansion boards and eight 3.3V I/O expansion boards. For detailed PCI/PCI-X expansion slot information, refer to the "PCI-X and PCI Bus Distribution Guidelines PCI-X and PCI Bus Distribution Guidelines" section of this document.

NOTE: The I/O module upgrade will take approximately two to four hours to complete. Duration may vary from case to case.

Kit Contents

The following items are included in this kit:

- I/O module prewired for an optional Remote Insight Lights-Out Edition board
- Compaq *SmartStart*™ for Servers 5.0 CD
- Compaq ProLiant DL760 Documentation CD
- ProLiant 8500 I/O Module Upgrade Migration diskette
- Compaq ProLiant 8500 Server I/O Module Upgrade Quick Installation poster
- Two PCI/PCI-X access panel hood labels
- One ProLiant DL760 server label
- Two service number labels

Tools Required

A Torx T-15 or a flathead screwdriver will be required to complete this upgrade.

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Upgrade Precautions

WARNING: There is a risk of personal injury from hazardous energy levels. The installation of options and routine maintenance and servicing of this product shall be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with equipment containing hazardous energy circuits.

WARNING: To reduce the risk of personal injury or damage to the equipment, refer to the documentation supplied with the system, and observe the appropriate safety precautions and option installation instructions.

WARNING: To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching them.

WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded electrical outlet that is easily accessible at all times.
- Disconnect power from the system by unplugging the power cord from either the electrical outlet or the system.

CAUTION: To prevent damage to the system, you must become static-free by touching a screw or unpainted surface on the system's housing before beginning these procedures. In addition, avoid touching any exposed metal on the option board and chip or on the system's circuit boards.

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Preparing the Server

This section explains the two upgrade methods that can be used. Also, the procedures necessary to prepare the existing server for the upgrade are discussed in this section.

Selecting an Upgrade Method

The I/O module upgrade can be performed by either of two methods. The method to use depends on the existing server setup.

IMPORTANT: Using Method 1 is strongly recommended. Reinstalling the operating system using the SmartStart for Servers 5.0 CD results in a cleaner upgrade.

- Method 1—This method is the preferred method. It involves reinstalling the supported operating system using SmartStart for Servers 5.0.
- Method 2—This method involves keeping the same supported operating system, but updating the System Partition with the System Dispatcher and Compaq Server Diagnostics utilities, updating the drivers, and updating the *Compaq Insight Manager*™ Console using the Compaq Management 5.0 CD.

Use Table 1 to determine the supported operating systems for the ProLiant DL760 server and Table 2 to determine the upgrade method to use.

Table 1
Supported Operating Systems.

Operating System Vendor	Version
Microsoft	Windows NT Server 4.0
	Windows NT Server 4.0 Enterprise Edition
	Windows 2000 Advanced Server
	Windows 2000 Server
Novell	NetWare 4.2 SMP
	NetWare 4.2
	NetWare 5 and 5.1
SCO	UnixWare 7.1.2

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Table 2
Upgrade Methods

Scenario	Method to Use	Explanation
No operating system is installed on the existing server.	Method 1	SmartStart for Servers 5.0 will be used to install a supported operating system.
A non-supported operating system is installed on the existing server.	Method 1	SmartStart for Servers 5.0 will be used to reinstall a supported operating system.
New expansion boards will be added to the new I/O module.	Method 1	Reinstalling the operating system with SmartStart for Servers 5.0 ensures that the correct drivers are loaded.
The 5V expansion boards on the existing secondary bus must be moved to the primary bus due to the new slot keying on the 3.3V secondary bus.	Method 1	Reinstalling the operating system with SmartStart for Servers 5.0 ensures that the correct drivers are loaded.
The existing server has a supported operating system, but it will be reinstalled.	Method 1	Reinstalling the operating system with the SmartStart for Servers 5.0 CD provides a cleaner upgrade.
The existing server has a supported operating system, but it will not be reinstalled.	Method 2	SmartStart for Servers 5.0 must be used to update the System Partition and the drivers.

Note: If upgrade Method 2 is used, do **not** install any new expansion boards during the I/O module upgrade.

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Preparing the Server for the Upgrade

After you have determined which upgrade method to use, use the following procedures to prepare the server for the upgrade:

CAUTION: The ProLiant 8500 I/O Module upgrade process may destroy data on the server. To ensure that you do not lose data, always back up the server before starting the upgrade process.

CAUTION: Disconnect any data drives present to prevent data from being erased when running the Erase utility from SmartStart.

1. Back up your data.
2. Shutdown the operating system as described in the operating system's instructions.
3. Disconnect any data drives.
4. Power down the server.
5. Gather the kit contents.

Upgrade Method 1

IMPORTANT: Using upgrade Method 1 is strongly recommended. Reinstalling the operating system using the SmartStart for Servers 5.0 CD results in a cleaner install.

If Method 1 is used, proceed to the "Migrating the System" section of this guide. You will install (reinstall) the operating system after the migration has taken place.

Upgrade Method 2

If Method 2 is used, go to the "Updating the Drivers, System Partition, and Compaq Insight Manager Console" section of this guide.

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Updating the Drivers, System Partition, and Compaq Insight Manager Console

USE THESE INSTRUCTIONS ONLY IF YOU ARE USING UPGRADE METHOD 2 TO PERFORM THE UPGRADE.

IMPORTANT: SmartStart for Servers 5.0 can no longer be used to create a Compaq Server Diagnostics diskette. If the server is not installed with a System Partition, a new version of the Compaq Server Diagnostics utility will need to be downloaded from the Compaq website. To access the Compaq website, log on to the Internet and point the browser to:

www.compaq.com

IMPORTANT: If the server does not have a System Partition, do not perform the "Updating the System Partition" section that follows. Perform only the "Updating the Drivers" and "Updating the Compaq Insight Manager Console" sections and then continue to the "Migrating the System" section.

Updating the Drivers

Software drivers and utilities have been updated to support the new PCI-X architecture included in this upgrade. To update the Support Software and Health Drivers specific to your operating system perform the following:

- **Microsoft Windows NT 4.0 and Windows 2000**

1. Insert the SmartStart for Servers 5.0 CD in the server and allow Autorun to execute.
2. Select and install the appropriate Compaq Support Paq following the screen instructions.

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- **Novell NetWare**

1. Insert the SmartStart for Servers 5.0 CD in the server.
2. Mount the CDROM drive.
3. Run the update utility by typing:

   LOAD CPQSMST500:CPQSUPSW\NSSD\INSTALL\CPQNSSU.NLM

4. Follow the screen instructions.

- **SCO UnixWare**

IMPORTANT: Uninstall the existing Extended Features Supplement (EFS) prior to performing this procedure. Refer to the documentation included with your version of the SCO UnixWare EFS for procedures on uninstalling.

---

1. Insert the SmartStart for Servers 5.0 CD in the server.
2. Mount the CDROM drive.
3. Execute the following command:

   pkgadd –d /<mountpoint>/ssup/uwar7/cpqefs.pkg

   NOTE: Unix commands must be typed in lowercase.

   NOTE: Check the Compaq website for the latest drivers. Access the Compaq website at:

   www.compaq.com/support/files/server/us/index.html

   Follow the instructions provided on the website to obtain and install the latest drivers for your operating system.

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Updating the System Partition

The System Partition must be updated with the System Dispatcher and Compaq Server Diagnostics utilities. To update the System Partition:

1. Insert the SmartStart for Servers 5.0 CD into the server.
2. Boot the server.
3. After the system is restarted, click the **Update the System Partition** icon from the screen to update the System Dispatcher and Compaq Server Diagnostics utilities. After the System Partition is updated, the server will reboot.
4. Remove the SmartStart for Servers CD during the reboot.

Updating the Compaq Insight Manager Console

The Compaq Insight Manager Console must be updated. To do the update perform the following:

1. Insert the Compaq Management 5.0 CD on any Management Console machine.
2. Follow the screen instructions to perform the update.
3. Remove the Compaq Management 5.0 CD.

CONTINUE WITH THE "MIGRATING THE SYSTEM" SECTION OF THIS GUIDE.

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Migrating the System

To maintain the original system serial number when upgrading to the new I/O module, a serial number migration is necessary. The serial number migration process transfers the serial number and the Environmental Variables (EVs) of the existing server onto the new I/O module. To begin this process, follow these steps:

1. Insert the ProLiant 8500 I/O Module Upgrade Migration diskette into the server.
2. Boot the server. Two options will display on the screen:
   - **Prepare for Migration**
   - **Exit and Reboot System**
3. Select **Prepare for Migration** by pressing the **P** key.

   The system will continue with "Collecting Migration Information…" When this process completes, the confirmation message, "Migration information collected and saved successfully" will display.

   The screen will also display the serial number of the server. Record the serial number to later verify that the serial number migrated successfully.
4. Leave the ProLiant 8500 I/O Module Upgrade Migration diskette in the server.

IMPORTANT: If you are upgrading multiple servers, do not reuse the same ProLiant 8500 I/O Module Upgrade Migration diskette. Each upgrade kit is supplied with its own diskette.

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5. Power down the server.

   NOTE: For more information regarding powering down the server and accessing the I/O board, refer to the server installation guide or maintenance and service guide supplied with the server.
6. Disconnect all power cords from the server.

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Removing the Existing I/O Module

The section describes the procedures necessary to remove the existing I/O module from the server.

Removing the Cable Management Arm

IMPORTANT: All PCI expansion boards must be removed from the server to perform the upgrade. If you are performing Method 2, write down where the expansion boards are located. When replacing the expansion boards in the new I/O module, they must be placed in the same bus and slot location as they were in the existing I/O module.

NOTE: Label all cables before disconnecting them.

To remove the cable management arm:

1. Disconnect all cables from the PCI expansion boards (if installed).
2. Loosen the thumbscrew on the cable management arm bracket ❶, and lift up on the bracket ❷ to disconnect the bracket from the server.
3. Swing the cable management arm out of the way.

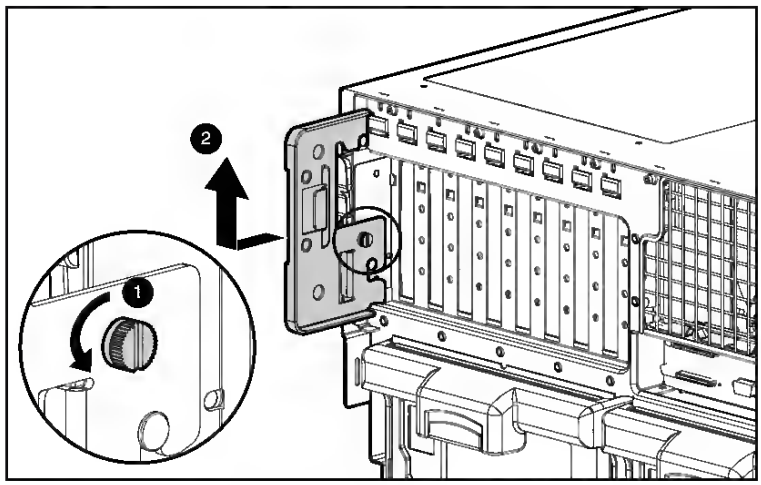

Figure 1. Removing the cable management arm

NOTE: For clarity, the cable management arm is not shown.

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Accessing the Existing I/O Module

The ProLiant 8500 server has a top latch security screw on the top access panel, as shown in Figure 2. The screw prevents access to the Processor and Memory Module, and the I/O module. There is also a shipping screw between the Processor and Memory Module and the I/O module.

1. Loosen the thumbscrews and slide the server out of the rack until it is fully extended.

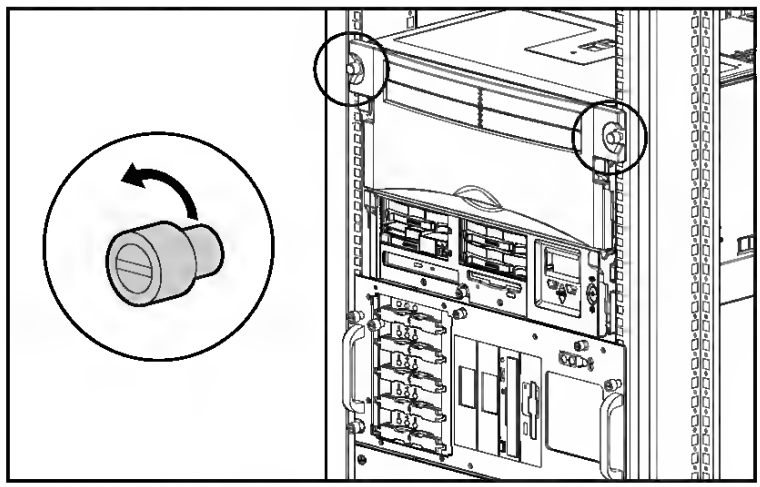

Figure 2. Loosening the rack thumbscrews

2. Loosen the top access panel screw ❶, slide the latch forward ❷, and slide the top access panel ❸ toward the front of the server.

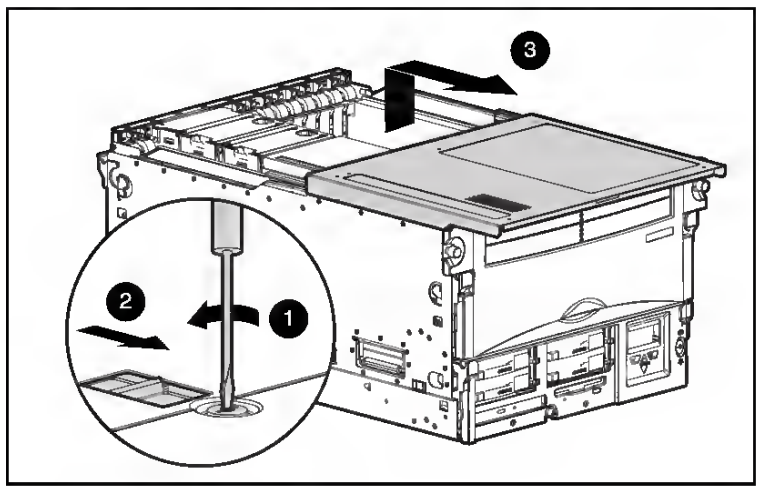

Figure 3. Opening the top access panel

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3. Open the air baffle ❶ in the I/O module.
4. Loosen the shipping screw between the Processor and Memory Module and the I/O module ❷ as shown in Figure 4.

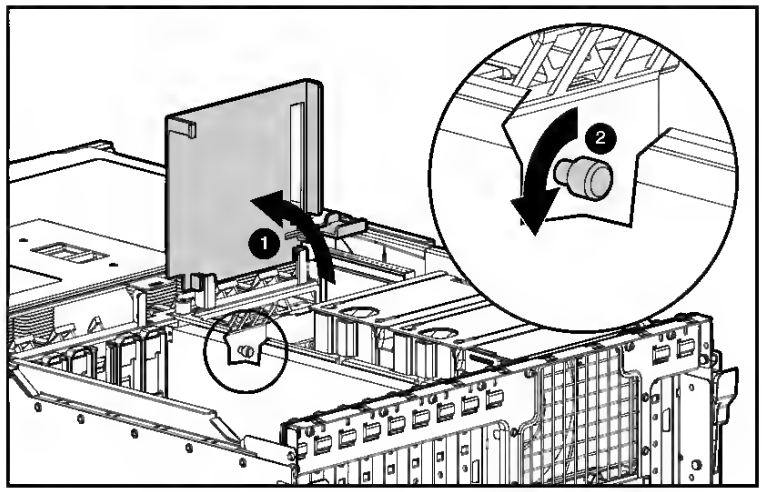

Figure 4. Loosening the shipping screw

5. Close the air baffle and the top access panel.
6. Slide the server into the rack.
7. Secure the server in the rack.

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Removing the I/O Module

CAUTION: If the server is equipped with a three-segment virtual power button cable, refer to the "Removing the Virtual Power Button Cable" section at the end of this guide for further instructions before continuing with this section. Removing the I/O module without disconnecting the virtual power button cable can damage the cable.

1. Push in on the sides of the cam levers ❶ on the I/O module and rotate the top levers downward ❷.
2. Pull the I/O module out of the rear of the chassis ❸ until it reaches the module stop latches.

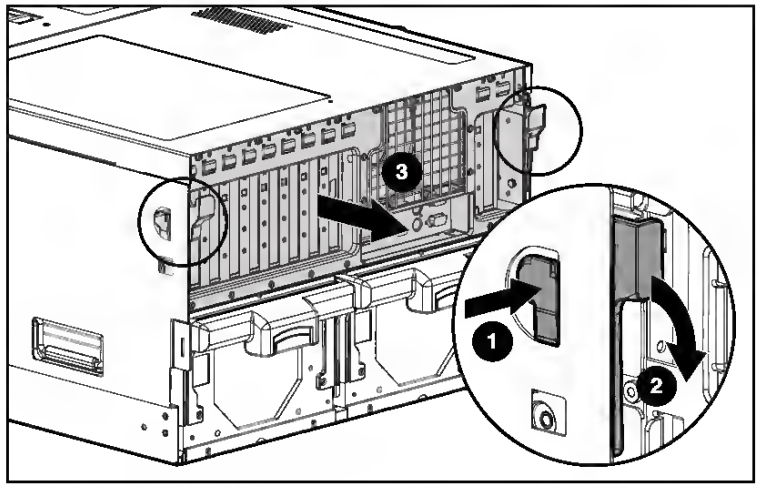

Figure 5. Releasing the existing I/O module

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3. Press in the module stop latches ❹ on both sides and pull the module out of the chassis ❺.

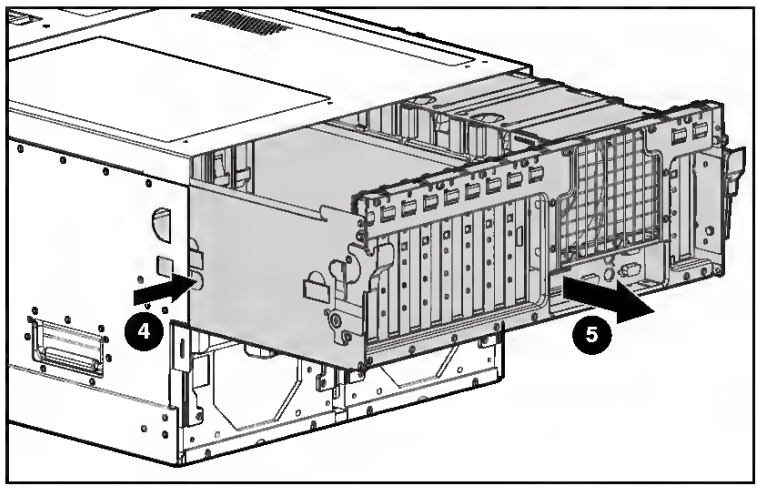

Figure 6. Removing the existing I/O module

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Transferring I/O Expansion Boards Between the I/O Modules

This section provides instructions on removing I/O expansion boards from the existing I/O module and installing them into the new I/O module.

IMPORTANT: If performing the upgrade Method 2, place the I/O expansion boards in the same slots in the new I/O module as they were in the existing I/O module.

NOTE: Before installing an I/O expansion board into the new I/O module, ensure that the PCI/PCI-X expansion slot will support the I/O expansion board. For detailed PCI/PCI-X expansion slot information, see the "PCI-X and PCI Bus Distribution Guidelines" section of this guide.

Removing PCI Expansion Boards from the Existing I/O Module

1. Open the air baffle ❶ to remove expansion board from slots 1 through 9.
2. Press down on the top of the PCI expansion slot release lever ❷, and open the lever toward the rear of the expansion slot ❸.
3. Lift the PCI expansion board out of the slot ❹.

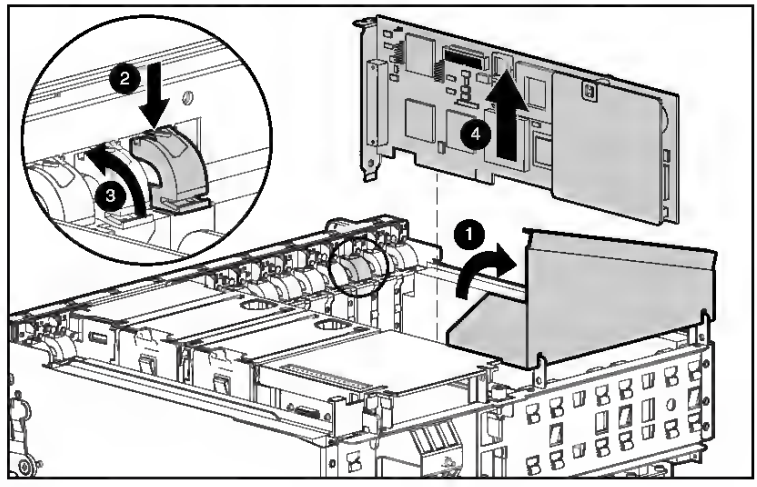

Figure 7. Removing PCI expansion boards from slots 1 through 9

4. Perform steps 1 through 3 for all PCI expansion boards in slots 1 through 11, if installed.

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New I/O Module PCI/PCI-X Slot Information

The following section describes the new slot keying on the new I/O module. Also, a description of the supported I/O boards is given.

I/O Board Slot Descriptions

The new I/O module has 11 slots divided into 3 buses. The Primary bus (slots 7 through 9) is keyed ❶ for 64-bit 5V PCI boards or 64-bit PCI universal boards. The Secondary bus (slots 1 through 6) and the Tertiary bus (slots 10 through 11) are keyed ❷ for 64-bit 3.3V PCI/PCI-X boards or 64-bit universal PCI/PCI-X boards. This is a change from the previous I/O module, where the Secondary bus (slots 1 through 6) supported 64-bit 5V PCI boards.

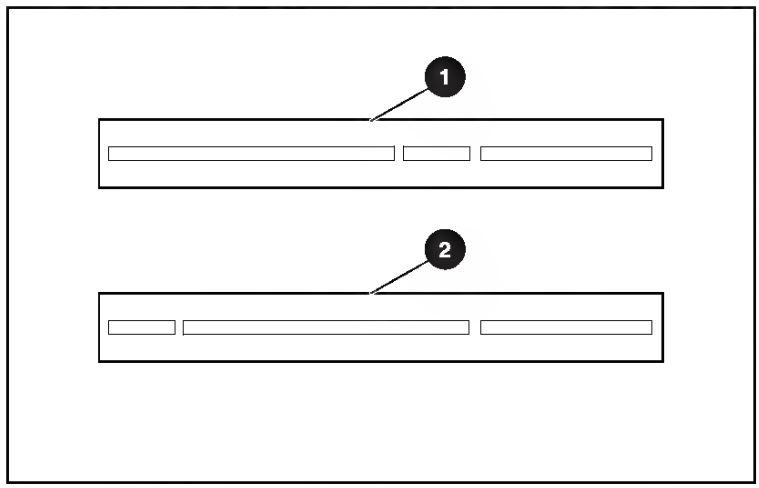

Figure 8. I/O board slot descriptions

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I/O Expansion Board Descriptions

The Primary bus will accept a 64-bit 5V PCI board ❶ or a 64-bit universal PCI board ❸. The Secondary and Tertiary buses will accept a 64-bit 3.3V PCI/PCI-X board ❷ or a 64-bit universal PCI/PCI-X board ❸.

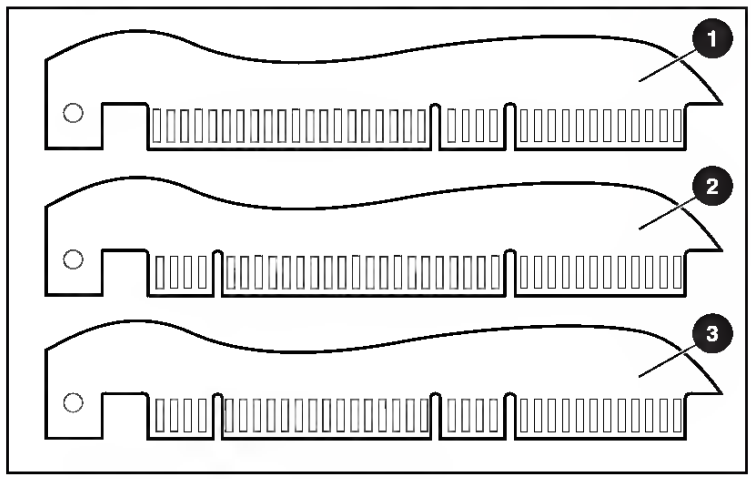

Figure 9. I/O expansion board descriptions

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PCI-X and PCI Bus Distribution Guidelines

The new I/O board in the new I/O module has 11 PCI Hot Plug I/O expansion slots.

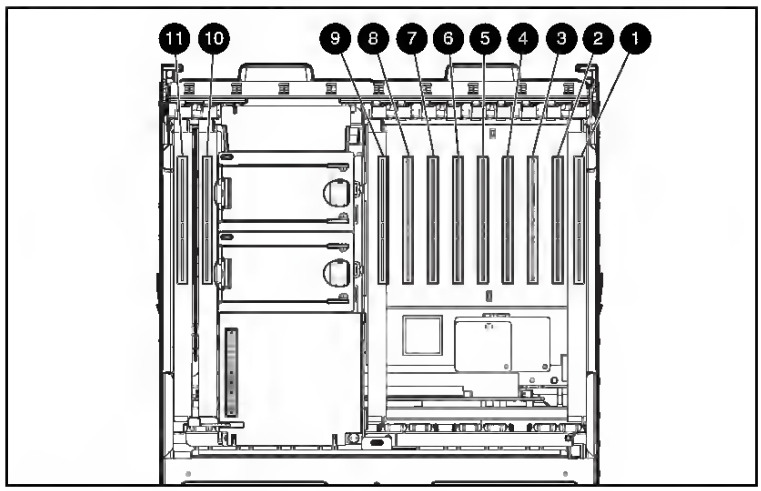

Figure 10. PCI/PCI-X bus assignments

Table 3
Bus Distribution of PCI Hot Plug I/O Expansion Slots

Slots	Bus	Maximum PCI/PCI-X Bus Speed	Expansion Board
❶ - ❻	Secondary	64-bit, 33-MHz PCI OR 64-bit, 50-MHz PCI-X	Industry Standard 64-bit 33-MHz PCI and 66-MHz PCI-X Boards (3.3V keying)
❼ - ❾	Primary	64-bit, 33-MHz PCI	Industry Standard 64-bit 33-MHz PCI Boards (5V keying)
❿ - ⓫	Tertiary	64-bit, 66-MHz PCI OR 64-bit, 100-MHz PCI-X	Industry Standard 64-bit 33-MHz PCI, 66-MHz PCI, 66-MHz PCI-X, and 133-MHz PCI-X Boards (3.3V keying)

Note: All PCI-X buses support PCI cards at 33 MHz

Note: The bus speed will only run as fast as the slowest card installed

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Installing the I/O Expansion Boards in the New I/O Module

IMPORTANT: If you are using upgrade Method 1 and you will be installing **new** PCI/PCI-X expansion boards, do so using the procedures in this section.

1. Press on the top of the appropriate expansion slot release lever ❶, and open the lever toward the rear of the expansion slot ❷.
2. Remove the expansion slot cover ❸.
3. Open the air baffle ❹.

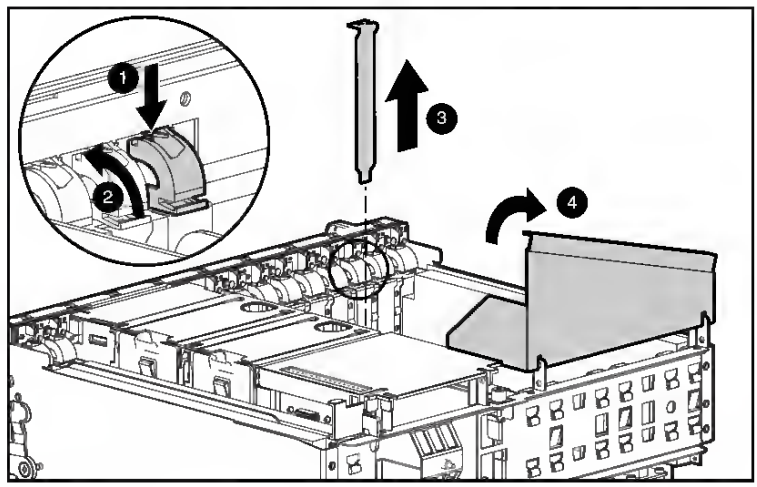

Figure 11. Preparing the hot-plug expansion slot for installation

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4. Install any new PCI/PCI-X expansion boards at this time (only if performing upgrade Method 1).
5. Insert an expansion board into the appropriate expansion slot ❶, pushing firmly until the board is seated properly.

IMPORTANT: If performing the upgrade Method 2, place the I/O expansion boards in the same slots in the new I/O module as they were in the existing I/O module.

6. Close the air baffle ❷.
7. Close the expansion slot release lever ❸.

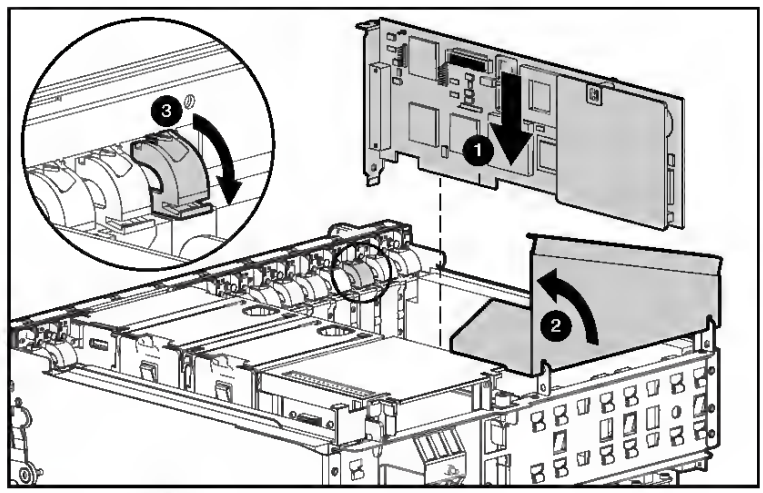

Figure 12. Inserting the PCI/PCI-X expansion board

8. Replace any expansion boards removed from slots 10 and 11.
9. Repeat steps 1 through 6 for the remaining expansion boards.
10. If no Remote Insight Lights-Out Edition board will be installed, proceed to the "Installing the New I/O Module" section of this guide.

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Installing the Remote Insight Lights-Out Edition Board

If you are installing a Remote Insight Lights-Out Edition board, follow these procedures. Otherwise, continue with the "Installing the New I/O Module" section of this guide.

NOTE: The Remote Insight Lights-Out Edition board can be installed in slots 7,8, or 9. Compaq recommends installing the board in slot 9 for the easiest installation.

1. Press on the top of the slot release lever ❶, and open the lever toward the rear of the expansion slot ❷.
2. Remove the expansion slot cover ❸.
3. Open the air baffle ❹.

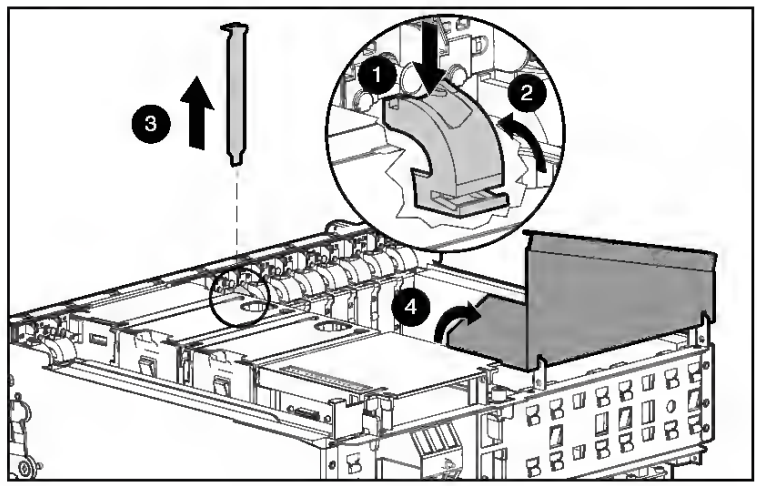

Figure 13. Preparing the expansion slot for installation

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4. Locate the ProLiant DL760 Remote Insight Lights-Out Edition adapter cable next to slot 9. The LED indicator cover must be opened to access the cable.

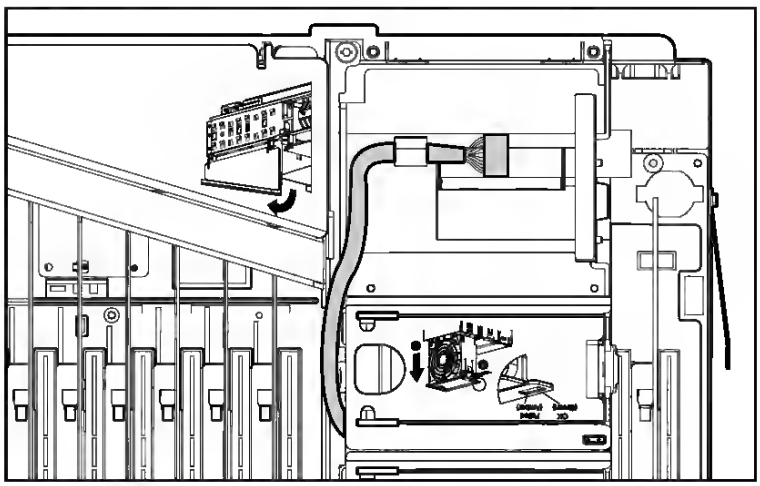

Figure 14. Locating the ProLiant DL760 Remote Insight Lights-Out Edition adapter cable

5. Insert the Remote Insight Lights-Out Edition board into the slot, pushing firmly until the board is seated properly ❶, then close the expansion slot release lever ❷.

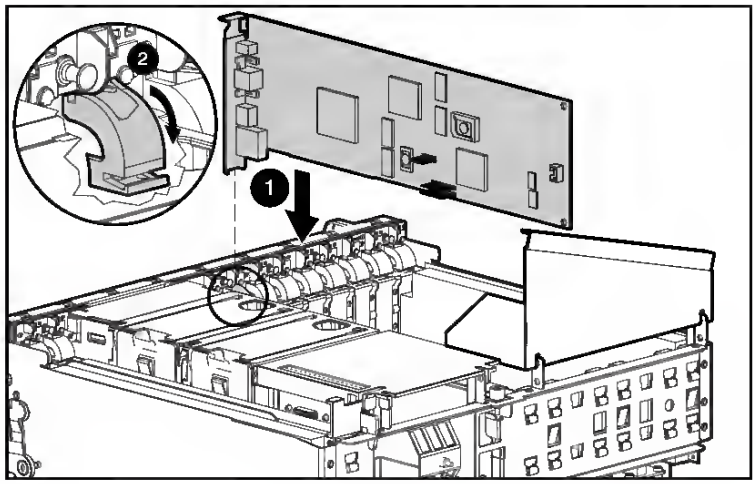

Figure 15. Inserting the Remote Insight Lights-Out Edition expansion board

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6. Connect the ProLiant DL760 Remote Insight Lights-Out Edition adapter cable to the cable connector on the Remote Insight Lights-Out Edition board ❶.

7. Close the air baffle ❷.

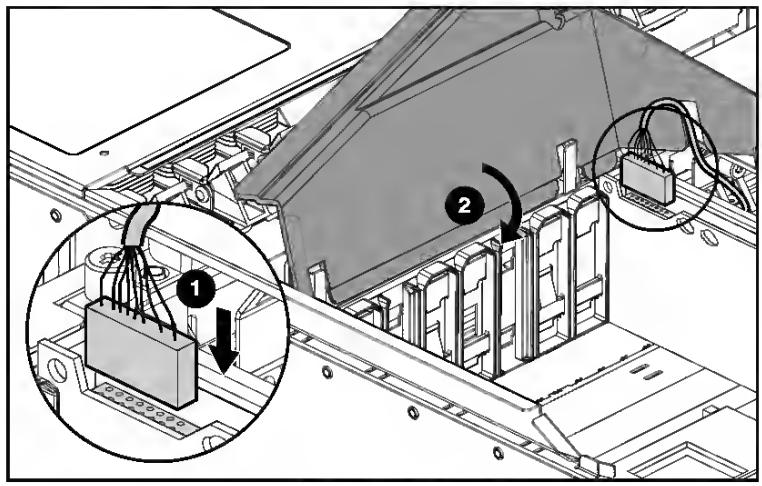

Figure 16. Connecting the ProLiant DL760 Remote Insight Lights-Out Edition adapter cable

8. Continue with the section, "Installing the New I/O Module."

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Installing the New I/O Module

Before sliding the I/O module into the server, verify that the correct module is being installed.

1. Verify that the serial number ❶ on the new I/O module matches the serial number on the service number labels included in the kit.

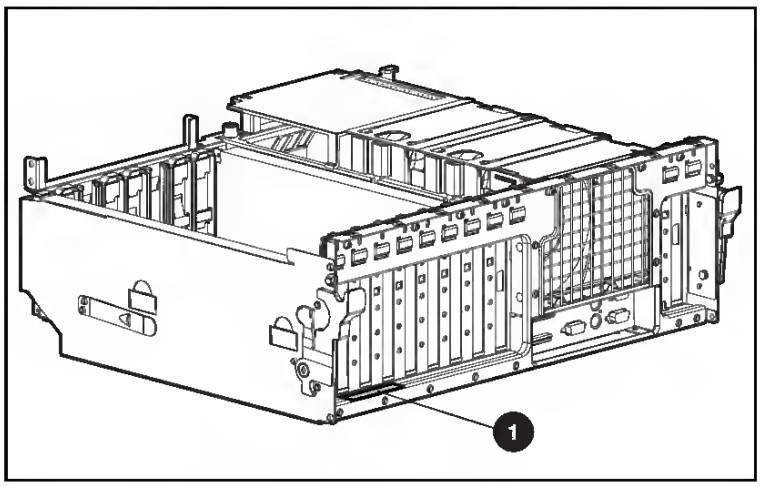

Figure 17. New I/O module serial number label location

2. Install the new I/O module into the server until the cam levers engage with the server chassis.
3. Secure the module by rotating the top cam levers upward.

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Completing the Upgrade

This section describes the procedures necessary to complete the upgrade.

Installing the New Labels

1. Slide the server out of the rack until it is fully extended.
2. Superimpose the Tertiary I/O Slot label over the Additional I/O Information label ❶. Superimpose the Hot-Plug I/O Slot label over the existing I/O Board Information label ❷.
3. Superimpose the ProLiant DL760 server model number label over the 8500 label ❸. Place the service number labels **next** to the serial number labels ❹.

NOTE: Do not superimpose the service number labels over the serial number labels. The service number labels are needed for warranty purposes.

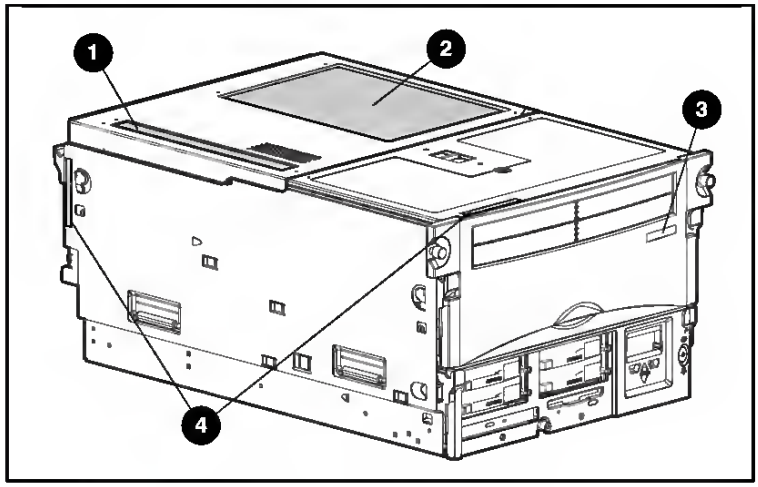

Figure 18. Slot information and serial number label locations

Table 4
Label Locations

Item	Component	Item	Component
❶	Additional I/O Information	❸	Model Number
❷	I/O Board Information	❹	Serial Number

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4. Slide the server into the rack.
5. Secure the server to the rack.

Connecting the Cable Management Arm and Cables

1. Connect the cable management arm to the server ❶, and secure it using the thumbscrew ❷.

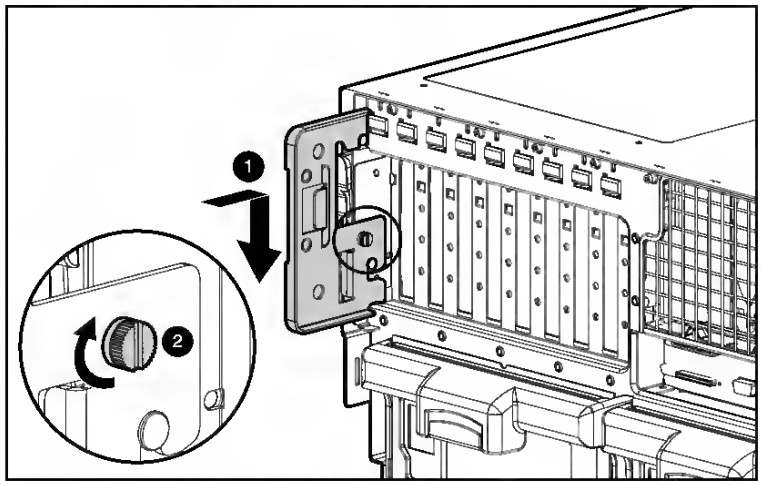

Figure 19. Connecting the cable management arm

NOTE: For clarity, the cable management arm is not shown.

IMPORTANT: If a Remote Insight Lights-Out Edition board is installed, do not connect the mouse and keyboard cables to the board. These signals are provided through the ProLiant DL760 Remote Insight Lights-Out Edition adapter cable.

NOTE: If a Remote Insight Lights-Out Edition board is installed, you can connect the auxiliary power cable to provide a redundant power supply to the board.

2. Connect any cables or power cords that were disconnected from the server at the beginning of the procedure.

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Transferring the Serial Number to the New I/O Module

1. With the ProLiant 8500 I/O Module Upgrade Migration diskette loaded, boot the server.

   The screen will display two options:

   - **Restore Migration Information**
   - **Exit and Reboot System**

2. Select **Restore Migration Information** by pressing the **R** key.

   The system will respond with "Restoring Migration Information."

   After the migration completes, the confirmation message, "Migration Information Restored Successfully," will be displayed, followed by the server serial number and the new service number (serial number of the new I/O module).

3. Confirm that the service number displayed matches the number on the new service number label located on the top of the server.

4. Confirm that the server serial number matches the server serial number label located on the top of the server as well as the server serial number noted earlier in the "Migrating the System" section of this guide.

5. Remove the diskette and press any key to reboot the server.

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Confirming the Serial Number and Service Number Display

After the server completes the Power-On Self Test, press the **F9** key to access the RBSU configuration utility screen.

1. Verify that the server serial number displayed matches the serial number you recorded earlier.
2. Verify that the new service number displayed is correct.

   NOTE: The new service number will contain the serial number of the new PCI-X I/O module.

3. Exit RBSU.
4. If you are reinstalling the operating system, proceed to the "Configuring the Server" section of this guide.

CAUTION: If you are performing upgrade Method 2, do not perform the procedures in the "Configuring the Server" section that follows. Performing those steps will cause data loss.

If you are performing upgrade Method 2, the upgrade is now complete.

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Configuring the Server

USE THESE INSTRUCTIONS ONLY IF YOU ARE USING UPGRADE METHOD 1 TO PERFORM THE UPGRADE.

IMPORTANT: Data loss will occur if you are performing upgrade Method 2 and you continue with these procedures.

SmartStart is the intelligent way to configure the server and to load the system software and operating system, thereby achieving a well-integrated server that ensures maximum dependability and supportability.

To install the SmartStart for Servers CD:

1. Insert the SmartStart for Servers CD.
2. Reboot the server from the SmartStart for Servers CD.

IMPORTANT: Running the System Erase Utility will cause the new service number to be erased. Before running this utility, confirm you have placed both of the new service number labels on the server.

3. Select the **Run System Erase Utility** icon.
4. Cycle power to the server when prompted.
5. After the boot, RBSU runs the memory check and then prompts you for the language and operating system to be used.
6. Follow the screen prompts.

NOTE: During this process you will be prompted to load the operating system.

7. Install Compaq Insight Manager when prompted by SmartStart.

When the CD-ROM busy LED indicator is illuminated, the SmartStart installation sequence begins.

The first time the server is configured, the SmartStart program automatically creates a System Partition and installs the Compaq Server Diagnostics utility and other Compaq utilities in that partition.

Refer to the Server Setup and Management pack for instructions on using SmartStart.

The upgrade is now complete.

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Removing the Virtual Power Button Cable

If the server was installed with a three-segment virtual power button cable, the cable must be removed. Each segment of the virtual power button cable is labeled A through C and has factory-installed self-adhesive cable guides.

NOTE: Refer to the *Compaq Remote Insight Lights-Out Edition User Guide* for additional information on the virtual power button feature of the option board.

Removing Cable Segment A

Cable segment A of the virtual power button cable is located in the media module. Viewing the server from the front, remove the media module by following these steps:

1. Loosen the thumbscrews on the front of the rack.

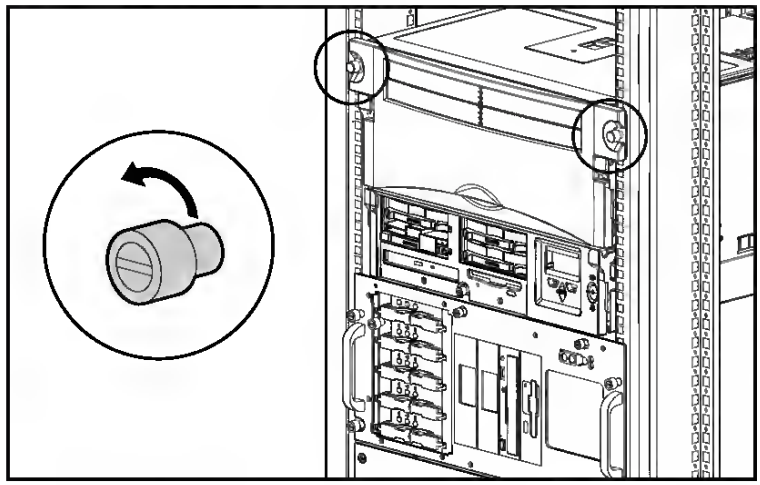

Figure 20. Loosening the rack thumbscrews

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2. Push in on the sides of the cam levers ❶ on the media module and rotate the top of the levers downward ❷.
3. Pull the media module out of the chassis until it makes contact with the module stop latches.
4. Press in the module stop latches ❸ and pull the module out of the chassis ❹.

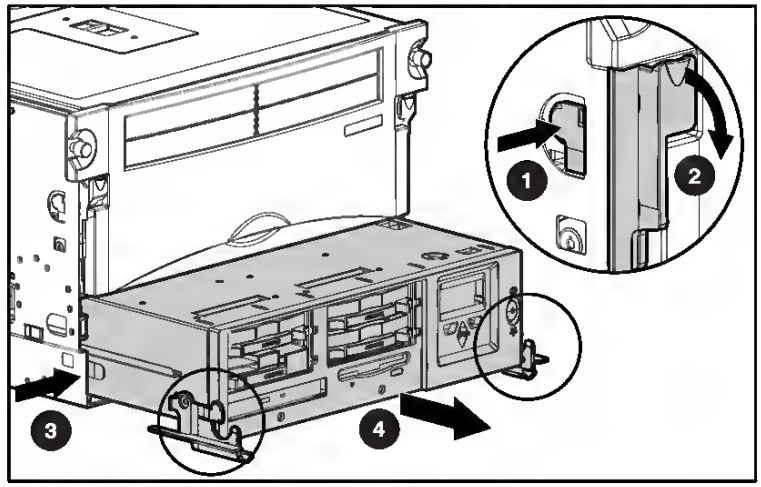

Figure 21. Removing the media module

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5. Disconnect the keyed cable segments A and B.

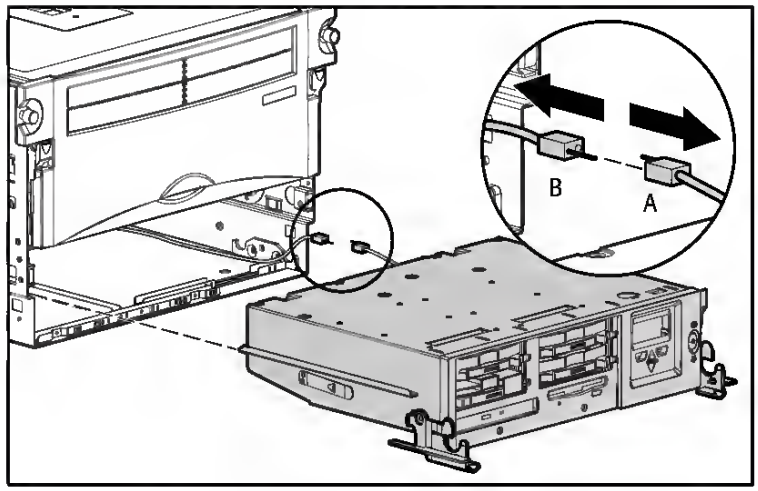

Figure 22. Disconnecting cable segments A and B

6. Remove the self-adhesive cable guide of cable segment A from the rightmost wall of the media module, adjacent to the Power On/Standby connector.

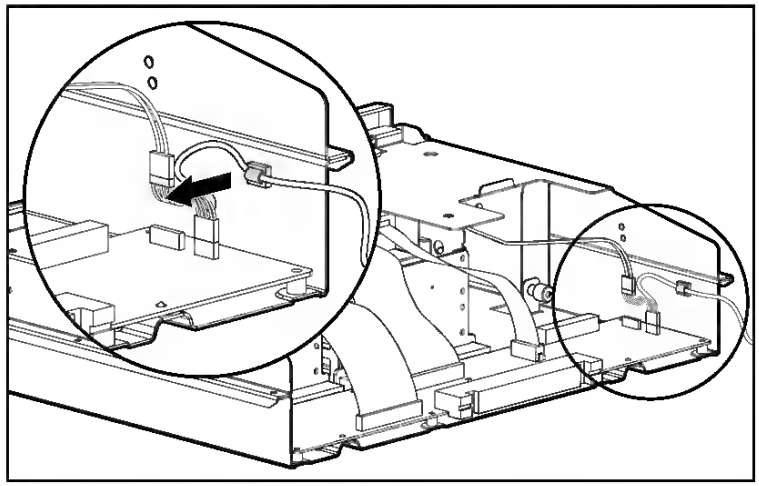

Figure 23. Removing the self-adhesive cable guide

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7. Disconnect the keyed connector of the server's Power On/Standby cable from the dual-head connector.

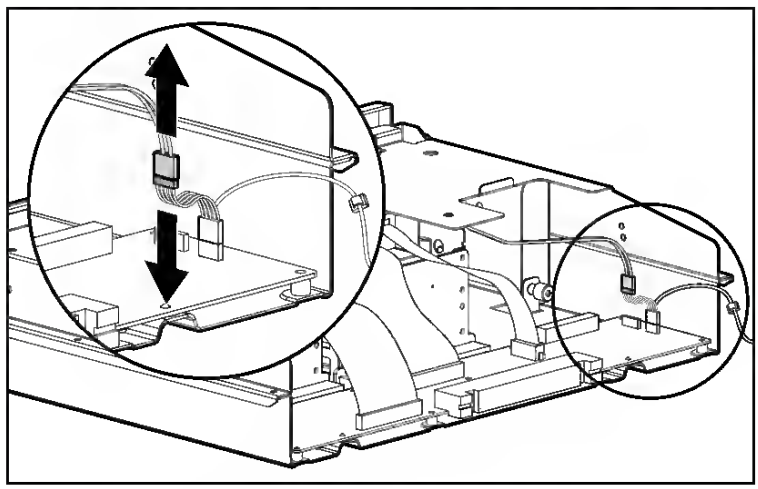

Figure 24. Disconnecting the Power On/Standby cable

8. Disconnect the keyed dual-head connector of cable segment A from the Power On/Standby connector on the media board.

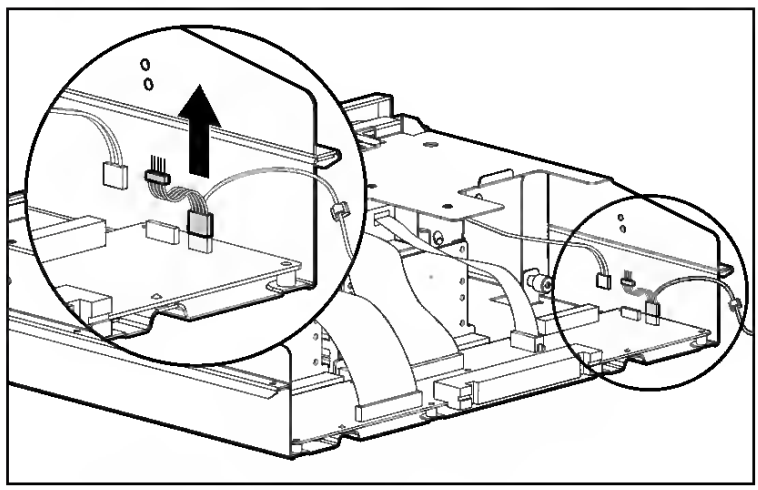

Figure 25. Disconnecting the keyed dual-head connector

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9. Connect the Power On/Standby switch connector to the media board in the media module.

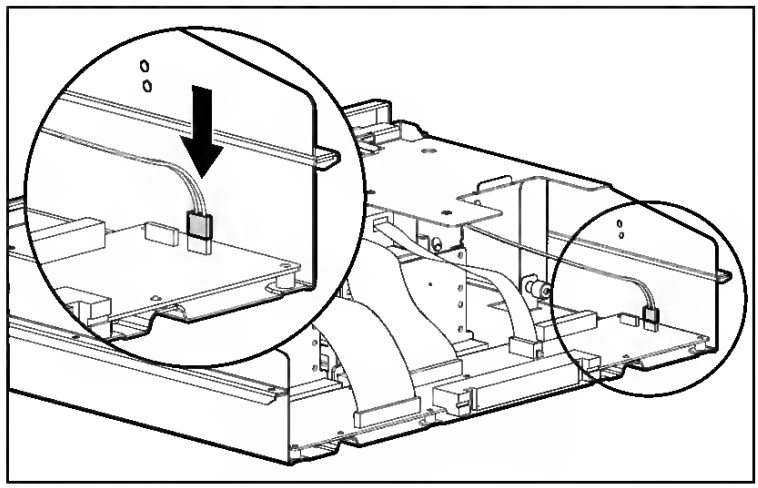

Figure 26. Connecting the Power On/Standby switch connector

10. Set the media module aside.

Cable segment A is now removed.

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Removing Cable Segment B

Cable segment B is situated on the system midplane board and connects cable segment A in the media module to cable segment C in the I/O module.

1. Slide the server out of the rack until it is fully extended.
2. Loosen the top access panel screw ❶, slide the latch forward ❷, and slide the top access panel ❸ toward the front of the server.

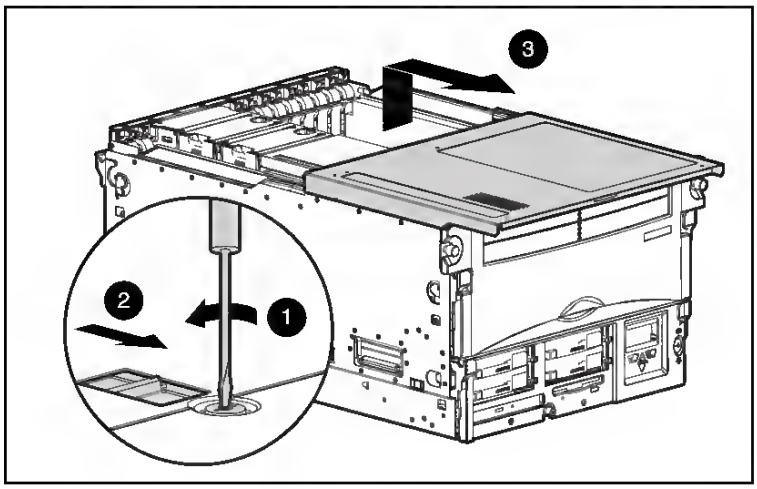

Figure 27. Opening the top access panel

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3. Looking down on the server from the front, disconnect the keyed cable segments B and C, located on the right side just forward of the air baffle.

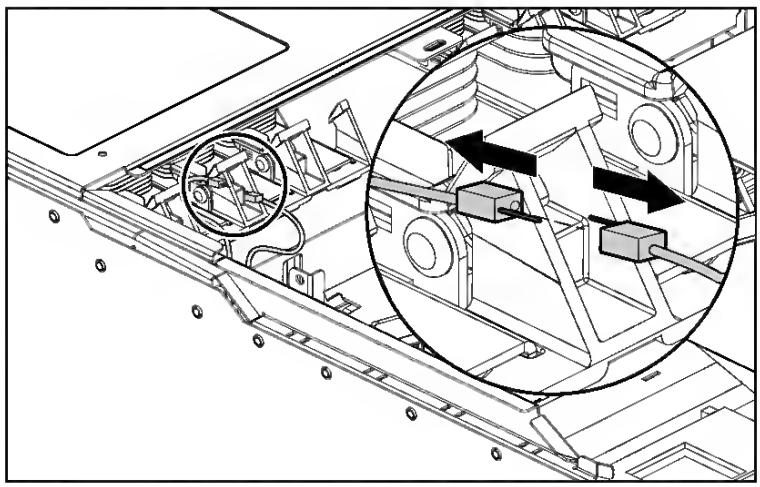

Figure 28. Disconnecting cable segments B and C

4. Viewing the server from the front, remove the self-adhesive cable guide without Velcro from the base of the server in the media module area, adjacent to the right server wall.

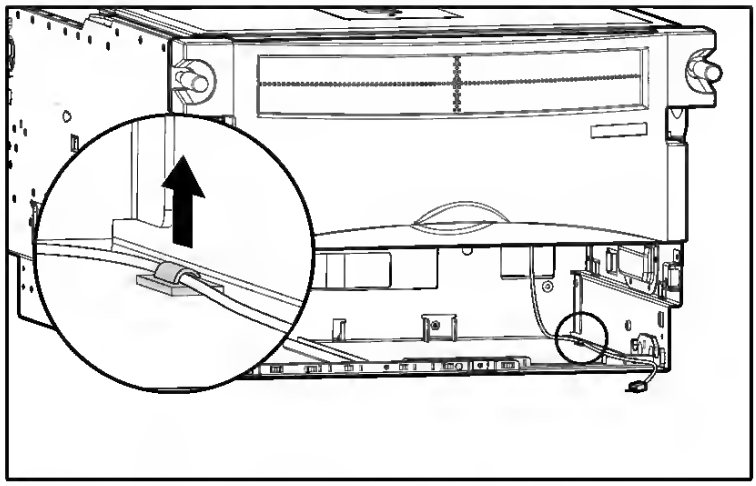

Figure 29. Removing the cable guide from media module area

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5. Remove the power supplies located under the I/O module on the rear of the server to gain access to cable segment B.
6. Viewing the server from the rear, remove the cable guide with Velcro from the back of the vertical wall of the system midplane board, adjacent to the left server wall.

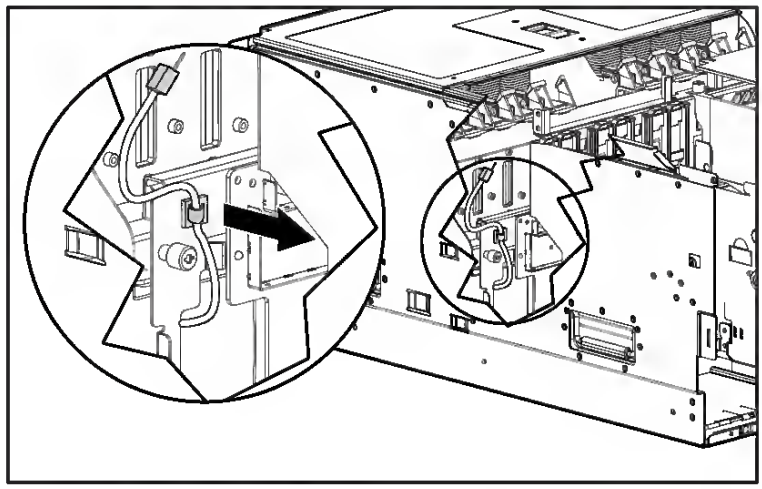

Figure 30. Removing cable guide from system midplane

7. Viewing the server from the front, pull the end of cable segment B closest to the cable guide with Velcro through the right vent hole in the system midplane board and down toward the media module area.

Cable segment B is now removed.

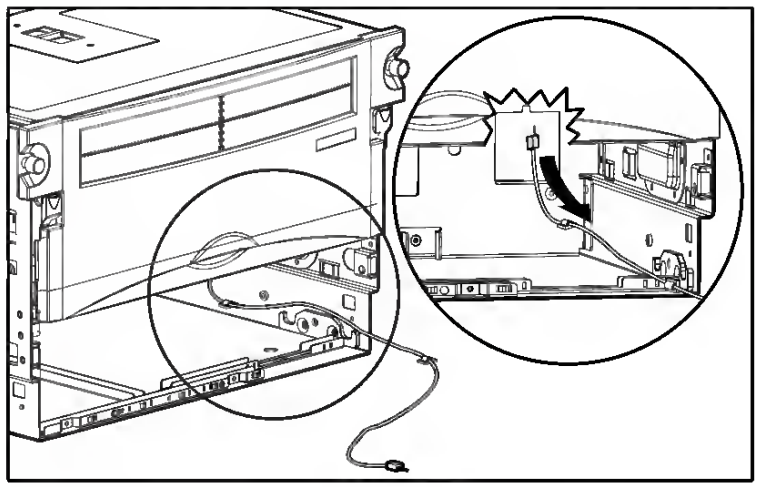

Figure 31. Removing cable segment B

8. Slide the media module back into the server.

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Removing Cable Segment C

Cable segment C of the virtual power button cable is situated in the I/O module and connects to cable segment B located in the system midplane.

Viewing the server from the rear, slide the I/O module out of the server several inches by following these steps:

1. Push in on the sides of the cam levers ❶ on the I/O module and rotate the top of the levers downward ❷.
2. Pull the I/O module out of the chassis ❸ to gain access to the system midplane.

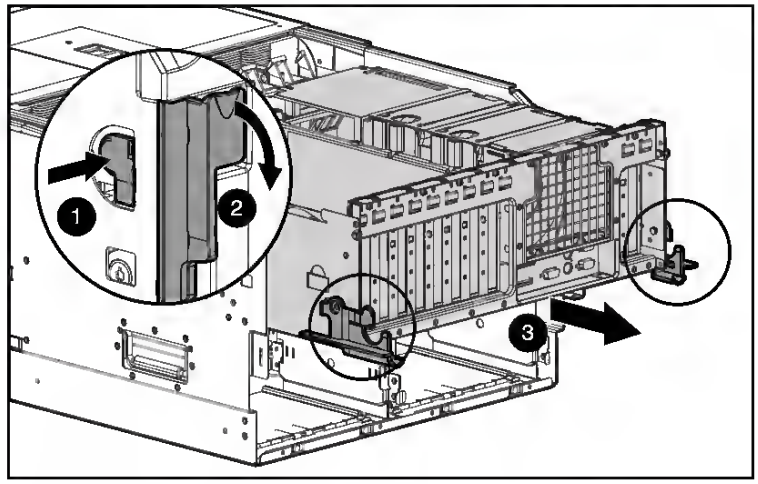

Figure 32. Gaining access to the I/O module

3. Open the air baffle.

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4. Disconnect the four-pin connector of cable segment C from the virtual power button J-12 connector on the Remote Insight Lights-Out Edition board.

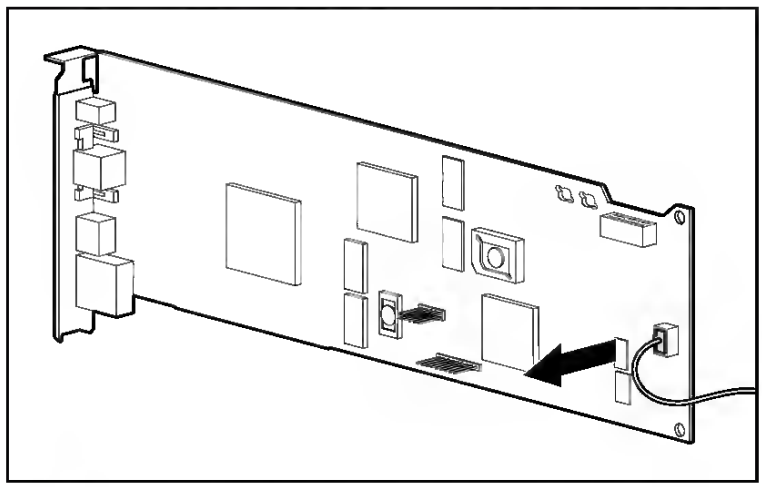

Figure 33. Disconnecting cable segment C from the Remote Insight Lights-Out Edition board

5. Pass the four-pin connector end of cable segment C through the hole in the air baffle as shown.

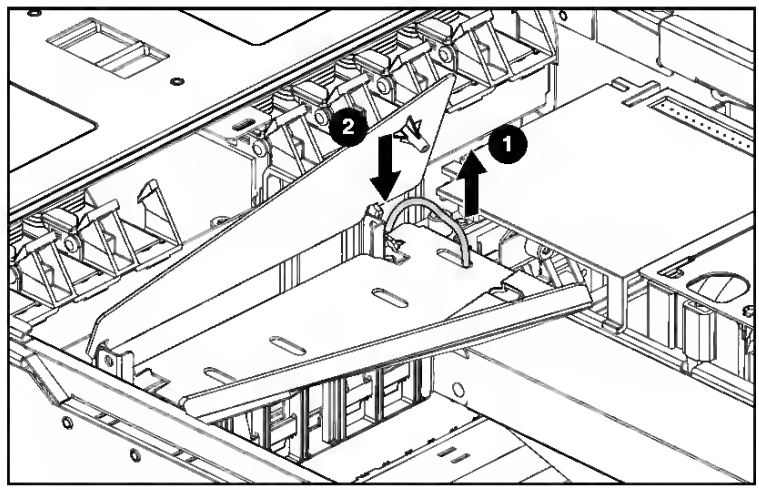

Figure 34. Passing cable segment C through the air baffle

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6. Viewing the server from the front, open the I/O module air baffle and remove the four-pin connector end of the cable from the air baffle ❶.
7. Remove the self-adhesive cable guides of cable segment C from the lip on the outside wall of the I/O module PCI expansion slot area ❷.

Cable segment C is now removed.

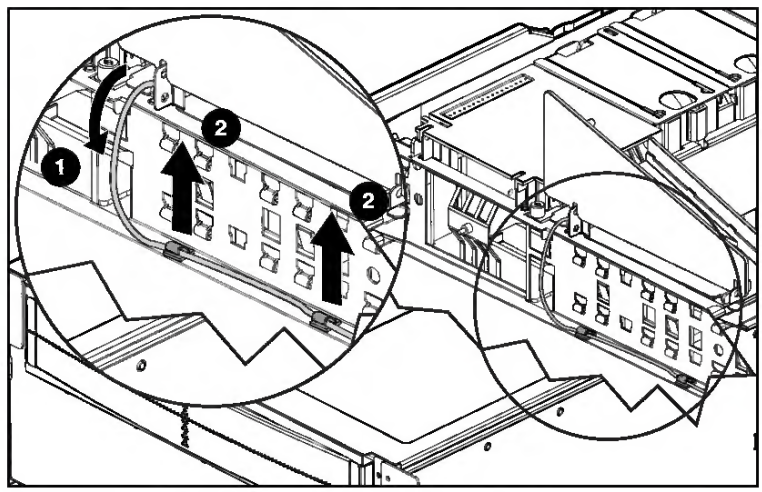

Figure 35. Removing cable segment C

The virtual power button cable is now removed. Return to "Removing the I/O Module" section of this guide to continue the I/O module upgrade.

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